

REMARKS

Claims 39 and 44 have been cancelled. Claims 17, 34, and 43 have been amended to describe processing a batch of workpieces. Claim 17 has been further amended to describe rotating the batch of workpieces. Claim 34 has been further amended to describe drying the workpieces via a surface tension effect. Claim 43 has been further amended to describe both rotating the workpieces and drying the workpieces using an organic solvent.

Turning to the prior art, Kashiwase *et al.*, USP 5,378,317, describes batch immersion processing to remove photoresist but without rotation. The only discussion of rotation in Kashiwase *et al.* is at Fig. 4(A), column 5, line 64 – column 6, line 25. However, the process described relative to Fig. 4(A) is a single wafer process, and a dry ashing process. Column 6, line 21. Accordingly, Kashiwase *et al.* cannot reasonably suggest rotating the batch of workpieces as in claims 17 and 43.

Kashiwase *et al.* also does not disclose any drying step, of any type. On the other hand, claim 17 describes introducing a drying fluid into the process vessel, claim 34 describes the workpieces via a surface tension effect, and claim 43 describes drying the workpieces using an organic solvent.

Kashkoush *et al.*, USP 6,532,974 B2, like Kashiwase *et al.*, does not suggest any step of rotating the workpieces, as in claims 17 and 43. In addition, in Kashkoush *et al.*, drying is achieved by blowing hot drying gas on the wafers. Column 4, lines 7-9. On the other hand, claim 34 describes drying the workpieces via a surface tension effect, and claim 43 describes drying the workpieces using an organic solvent. Neither of these steps is suggested in Kashiwase *et al.* or Kashkoush *et al.*.

Ogasawara *et al.*, USP 6,637,445 B2, like Kashiwase *et al.* or Kashkoush *et al.*, does not suggest rotating a batch of workpieces, as claimed. Ogasawara *et al.* describes drying using an organic solvent. Column 4, lines 65-67. The organic solvent is contained within a solvent bath 84 immersed within a solvent heating unit 62. A heater 82 heats water 80, which in turn heats the solvent. However, the water heated in the solvent heating unit 62 is not applied to the workpieces as a processing fluid. Ogasawara *et al.* does not expressly disclose heating a processing fluid (i.e., a fluid actually applied to the workpieces, as in claims 17, 34, and 43). Rather, Ogasawara *et al.* merely states that a desired chemical fluid of a given concentration and a given temperature may be applied. Column 5, lines 18-20.

Scovell, USP 6,558,477 B1, describes removing photoresist using hot deionized water, water vapor, and ozone gas. Wafers 20 are partially submerged in a bath of deionized water 18. Column 4, lines 50-54. The wafers 20 are then rotated causing a thin layer 36 of the water to form and wet the surface, while a sector of the wafer is moved out of the liquid into the gaseous section 14. Ozone 26 is provided above the layer of the liquid or water 18. No drying step is suggested. Relative to claim 17, the "solvent" in Scovell is water, used to create a meniscus and wetted surface on the wafer 20. Consequently, the solvent in Scovell is a wetting liquid, rather than a drying fluid, as in claim 17. In Scovell, the ozone is provided above the liquid layer. In claims 34 and 43, the ozone is bubbled through the process liquid. In addition, the workpieces are dried via a surface tension effect, not suggested by Scovell.

Regarding the combination of Kashiwase *et al.*, Kashkoush *et al.*, Ogasawara *et al.*, at paragraph 2 of the Office Action, since none of these references individually

suggest rotating a batch of workpieces, claims 17, 41, and 43 cannot be obvious over this combination.

Regarding the combination of Kashiwase *et al.*, Kashkoush *et al.*, and Ogasawara *et al.*, and Scovell, initially the need to identify elements of the claims in four different references suggests that the claims are not obvious. The references themselves provide no guidance to a person of ordinary skill as to which elements from each reference should be selected. The wafer spinning step in Scovell is performed to move the wetted surface of the wafer into the gas-phase section 14 of the reaction chamber 12, to allow ozone gas 26 to permeate through the thin layer 36 of the solvent and water vapor 39. Scovell, column 5, lines 24-28. In contrast, the rotating steps in claims 17 and 43 are performed to provide more uniform processing. While the claims do not include this specific functional language, the point here is that the spinning in Scovell *et al.* is performed in a different way to achieve a different result. As a consequence, a person of ordinary skill could not reasonably identify the spinning in Scovell as an element for combination with the other steps of claims 17 and 43. By way of demonstration, in Scovell, the entire process relies on rotation. No processing can occur if the wafers are stationary. On the other hand, while the process in the present application can be performed with or without rotation, rotation provides more uniform processing.

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In view of the foregoing, entry of the amendments to the claims, reconsideration, withdrawal of the rejections, and a Notice are requested.

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